

AIR RESOURCES BOARD

PROPOSED REVISIONS TO CALIFORNIA'S AGRICULTURAL BURNING GUIDELINES

CONCEPT PAPER FOR DISCUSSION AT REGIONAL WORKSHOPS (March 1999)

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What regulation are we proposing to change?

This paper describes the Air Resources Board's (ARB's) conceptual proposal for revising the existing regulations governing agricultural burning in California – the Agricultural Burning Guidelines found in Title 17 of the California Code of Regulations (sections 80100 through 80330). Agricultural burning refers to the intentional use of fire for vegetation management in areas such as agricultural fields, orchards, and wildlands like rangeland and forests. The planned use of fire on wildlands is generally referred to as prescribed burning. Upon adoption of an amended state regulation, the local air agency responsible under state law for managing the smoke impacts of agricultural burning would then be required to adopt and implement conforming programs and requirements.

How does the current agricultural burning program work?

The state agricultural burning guidelines are implemented by either the local air district or, in those air basins consisting of two or more districts, the Basinwide Air Pollution Control Council ("basinwide council"). ARB has program oversight authority and makes burn/no-burn decisions for each region, unless this authority has been specifically delegated to the air district.

The process for implementing the guidelines varies throughout the state. In all areas outside the Sacramento Valley, the program technically requires establishment of a daily cap on acreage available for burning. However, the program in practice uses an "all or nothing" approach – an unrestricted number of acres may be burned on a burn day and none may be burned on a no-burn day. State law also allows a district to authorize burning on no-burn days if denial of a burn permit "would threaten imminent and substantial economic loss." The air districts in the South Coast, San Diego, and Bay Area operate their own delegated programs and coordinate with the ARB, while other districts rely on the ARB to establish burn days and supply meteorological support. The San Joaquin Valley is in the process of reviewing its program and expanding its smoke management activities on a parallel track with ARB's Title 17 update.

The Sacramento Valley currently uses an allocation process when making decisions regarding agricultural burning. This system increases the number of days when burning is allowed, but limits the number of acres that can be burned on a daily basis. Under this system, the ARB establishes a cap on the total acreage that can be burned in the air basin each day, based on atmospheric conditions. Then a basin-wide burn coordinator allocates acres (up to the cap) among the districts in the basin. The districts then allocate acreage among specific burn events. To minimize smoke impacts, real-time weather and air quality measurements are used to establish the acreage allocations and the timing and placement of the fires. This system is supported by fees on agricultural burners to support monitoring sites, meteorological services, and the basin-wide coordinator.

Why are we proposing changes to the program?

The existing program has generally been effective in managing agricultural burning with the current levels of prescribed burning for wildland management. However, we believe it is both necessary and timely to reevaluate the regulation to improve the statewide smoke management program for the following reasons:

- Land managers – defined here as entities that administer, direct, oversee, or control the use of public or private land, including the application of fire to the land – are planning significant increases in prescribed burning for California. The smoke management system needs to be improved to effectively address these increases and minimize the impact on public health and welfare.
- Short-term, high-impact smoke episodes have resulted from agricultural burning (including prescribed burning). These episodes can produce very high concentrations of inhalable particulate matter in downwind communities. Certain populations, including children, the elderly, exercising adults, and those suffering from asthma or bronchitis are especially vulnerable. Particulate matter can increase the number and severity of asthma attacks, cause and aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Community health studies also link exposure to particulate matter with premature death in people with existing heart or lung disease.
- Prescribed fire and other types of agricultural burning have the potential to affect California's ability to meet the health-based air quality standards for particulate matter and the upcoming federal regulations to improve visibility in national parks.
- California's air regulators, along with many of its forestry management and fire protection agencies, agree that improvements to the current program can be made to optimize management of California's natural resources while minimizing smoke impacts.

Who would be responsible for oversight and implementation of the improved program?

The ARB would continue in its oversight role, provide overall program guidance and approval, establish regional burn/no-burn decisions, establish a daily maximum acreage that can be burned in each region (a “cap”), and monitor large and sensitive burns. Responsibility for program implementation would lie with either the individual air district or, for those air basins consisting of more than one district, the basinwide council. Successful implementation would require close coordination with federal, state, and private land managers; fire protection agencies; the timber industry; farmers; and ranchers.

How are we proposing to change the agricultural burning program to improve smoke management?

The primary element of the improved program would shift all areas of the state to a regional acreage allocation system. This system would be implemented by the individual air district or basinwide council as described in its approved Burn Implementation Plan. The ARB, or the regional authority designated in the Burn Implementation Plan, would establish a daily maximum cap for each region, based on atmospheric conditions. This cap would cover all types of agricultural burning (not just prescribed fires on forest and range lands) within the region. The district or basinwide council would then coordinate the allocation of acres to individual burners within the region.

This program would maximize the number of days available for burning by minimizing the number of no-burn days, but would strictly cap the amount that may be burned each day. This cap would be based on the expected ability of each region to accommodate smoke without significantly impacting air quality. The regulation would also provide a mechanism for districts to establish their own program for forecasting and setting daily caps for the region that includes daily coordination with the ARB.

What would be the main elements of a regionally coordinated approach?

In general, this approach is based on the Sacramento Valley program, in which growers, air districts, and ARB work closely together to successfully manage burning of agricultural waste during the fall season. The proposed revisions would be as follows:

- Each air district or basinwide council would establish a Regional Burn Coordination Center (“Regional Center”). These Regional Centers would consist of, at a minimum, a meteorologist and burn coordinator assigned to that region by the air district or basinwide council. These functions may be performed by independent contractors, or district or other public agency personnel.

- Each district or basinwide council would develop a Burn Implementation Plan, which must be approved by the ARB. The ARB could accept, reject, or modify these Burn Implementation Plans, based on criteria to be defined in the revised regulation. Each Burn Implementation Plan would describe the district or basin smoke management program and:
 - describe the process for establishing the size, location and timing of the burns to minimize smoke impacts;
 - apportion responsibilities for implementing the Burn Implementation Plan among the appropriate entities (“regional designees”), which would include the Regional Center and may also include district personnel, basinwide council personnel, and/or other appropriate designated individuals or agencies;
 - indicate what seasons the Regional Center would be active and what process would be used for burn management “off-season”;
 - describe the process for reporting information to the ARB on planned and unplanned wildland fires; burn totals for the previous day; and other information needed by the ARB to establish regional caps for the following day, develop an emission inventory, and ensure that the smoke management plan is being implemented successfully; and
 - describe the process for coordinating burns with other regions and states.
- The district or basinwide council Burn Implementation Plan would identify the specific regional designees to perform the following tasks:
 - establish the daily cap if regional delegation is desired;
 - coordinate burn projects with other centers and states;
 - issue burn permits;
 - allocate acreage among burn projects on a daily basis, within the cap set by the ARB or the regional designee;
 - review and approve the burn registrations and smoke management plans submitted by land managers;
 - coordinate with land managers to determine the optimal timing, location, and size for individual burn projects; and
 - determine, for individual burn projects, if it is appropriate to allow burning in *specific* areas on no-burn days, with an effective procedure for determining that microclimate conditions will allow burning without adverse smoke impacts.

What general requirements would apply under the proposed program?

- Land managers would register yearly with the regional designee all planned burn projects of greater than *[to be determined]* acres, including areas considered for potential naturally ignited wildland fires. It would also be possible to register burns at a later date. Registration information would include, at a minimum, the planned season and acreage for the fire and information as to how post-burn evaluations will be made available to the regional designee.
- For each prescribed fire listed in the registration, land managers would need to concurrently submit a Smoke Management Plan to the regional designee. This Smoke Management Plan would include information such as:
 - identification of contingency measures if smoke impacts occur, which may include methods to stop the burn;
 - actions to minimize fire emissions;
 - public notification and exposure reduction measures; and
 - types of air quality and meteorological monitoring appropriate for the burn.
- We are not proposing to require that growers prepare Smoke Management Plans for crop and orchard burning because Title 17 and district regulations already define specific requirements and procedures to reduce smoke from these activities.
- The regional designee would make 24-hour and 48-hour burn/no-burn determinations for small burns. The ARB or the regional designee would make these burn/no-burn determinations for large burns, overnight burns, or burns in sensitive locations.
- For burns falling within certain criteria established for size or distance from sensitive locations (as documented in the Burn Implementation Plan), the land manager would need to request and receive an “affirmative confirmation” the morning of a planned burn event from the regional designee or the ARB, confirming that the burn may still be ignited. Planned burn events with 24-hour and 48-hour approval must still receive an affirmative confirmation the morning of the planned burn. For multi-day burns, it would be necessary to receive an affirmative confirmation each day of the burn event.
- Each regional designee would report to the ARB for each fire the number of acres burned on the previous day and any known smoke impacts.
- The land manager conducting the prescribed burn would make available to the regional designee a post-burn evaluation indicating the success of the prescribed burn within one month of the burn. Included would be information such as unexpected occurrences that might have impacted the burn decision, any complaints received, total acreage burned, and an evaluation of the success of the smoke management prescription methods used to reduce emissions from the burn. The regional designee would forward some or all of the information to the ARB as agreed upon in the Burn Implementation Plan.

What would be the procedures for wildfires?

- Wildfires starting on a no-burn day would be presumed to be out of prescription. These fires would be declared wildfires and would need to be suppressed unless the land manager and the regional designee agree that it is appropriate to allow the wildfire to continue. In that case, the regional designee would give approval for the fire to continue, with the same requirements as a prescribed fire. Any wildfire of greater than *[to be determined]* acres would be reported to the regional designee by the land manager. This report would include the estimated size of the fire, the control date, and information on anticipated smoke impacts.
- A wildfire would be allowed to continue if: (1) it starts on a burn day; (2) it is covered by an approved smoke management plan; and (3) it complies with the prescription in the smoke management plan. If the fire complies with these conditions, the land manager would register that specific fire and submit a smoke management plan to the regional designee and the ARB as soon as possible, but no later than 72 hours after the fire is first observed. The land manager would then continue to submit daily burn requests, as required for prescribed fires. Additional information may be requested by the regional designee or the ARB, such as the daily anticipated growth in the area to be burned, maximum allowable size or perimeter, anticipated duration, and smoke impact modeling for the burn.

What would be the monitoring requirements for prescribed burns?

- The district, basinwide council, or the ARB could require a land manager to monitor weather and/or air quality prior to and during wildland burns of greater than 250 acres per day or wildland burns near smoke-sensitive sites such as:
 - populated areas, hospitals, schools, nursing homes, airports, roads, campgrounds;
 - Class I areas (national parks and wilderness areas); or
 - nonattainment areas for state or federal ozone, carbon monoxide, or particulate matter air quality standards.

This information would be provided to the regional designee at least one day before burn ignition and on a daily basis during the burn. Information such as wind speed and direction, ambient temperatures, and air quality between the fire and the nearest smoke-sensitive site could be included. For larger fires, additional monitoring may include information from radar wind profilers, remote automated weather sites, air quality sites, and include telemetry to allow real-time access by the regional designee and the ARB.

If you have questions regarding revisions to California's Agricultural Burning Guidelines, please contact Mr. Bill Wilson at (916) 324-9747 or by e-mail at wwilson@arb.ca.gov.